



# Renovation Strategies of Selected EU Countries

A status report on compliance with  
Article 4 of the Energy Efficiency Directive

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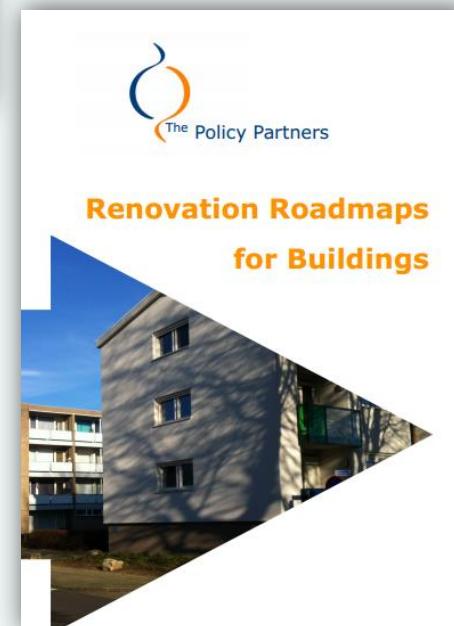
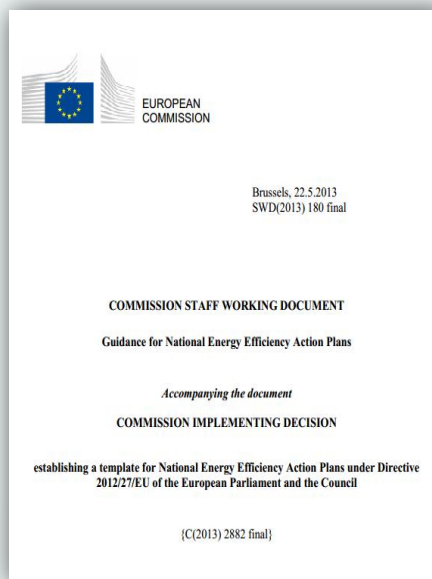
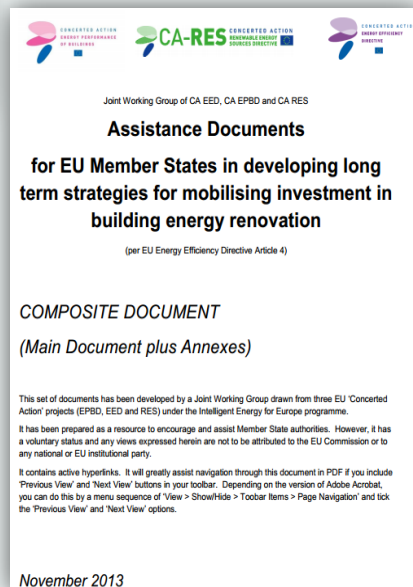
# Article 4, Energy Efficiency Directive

Member States shall establish a **long-term strategy** for **mobilising investment** in the **renovation of the national stock of residential and commercial buildings, both public and private**. This strategy shall encompass:

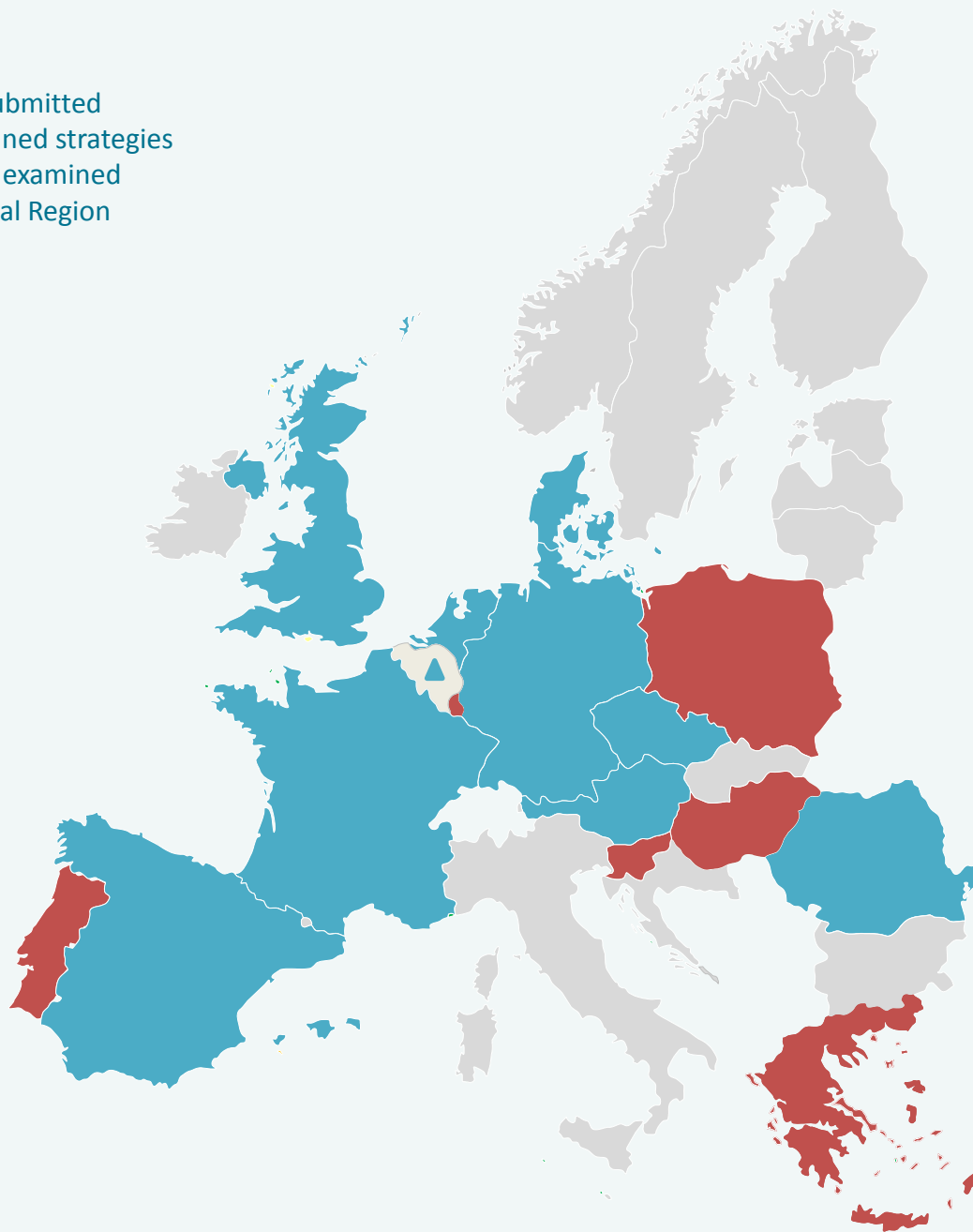
- An **overview of the national building** stock based, as appropriate, on statistical sampling;
- Identification of **cost-effective approaches to renovations** relevant to the building type and climatic zone;
- **Policies and measures to stimulate cost-effective deep renovations** of buildings, including staged deep renovations;
- A **forward-looking perspective to guide investment decisions** of individuals, the construction industry and financial institutions;
- An **evidence-based estimate of expected energy savings and wider benefits**.

A first version of the strategy shall be published by 30 April 2014 and updated every three years thereafter.

# Available Guidance



- No strategy submitted
- The ten examined strategies
- Countries not examined
- Brussels Capital Region



# Analysing the strategies

**Analysis based on the 5 headings specified in Art. 4 as required in national strategy:**

1. Overview of National Building Stock
2. Cost Effective Approaches to Renovation
3. Policies & Measures to Stimulate Deep Renovation
4. Forward-looking Perspective to Guide Investment Decisions
5. Energy Savings and Wider Benefits

# Scoring of the criteria

**For each 5 headings (criteria), each strategy is ranked on a 0-5 scale:**

- 0 = MISSING - the item is not covered at all, or only described in another source
- 1 = UNSATISFACTORY – only the most cursory coverage of the item
- 2 = INADEQUATE – item addressed poorly, with insufficient detail, or with important aspects missing
- 3 = ADEQUATE – meets the basic minimum requirements
- 4 = GOOD – topic is described in some detail
- 5 = EXCELLENT – exemplary coverage of the topic

Reachable maximum is 25 points, the overall score is converted into %.



# Overview of the building stock

Excellent performance for:

- ✓ **Brussels Capital Region:** detailed and comprehensive analysis of buildings (age, type, floor area, energy performance characteristics, energy consumption by carriers and end use)
- **UK:** details provided to stakeholders, researchers and other parties.

But relatively easy to reproduce existing information of this kind.



# Identification of cost-effective approaches to renovation

## Brussels Capital Region:

- ✓ Very good insight especially at the level of individual buildings
- ✓ General conclusions about the **applicability** of certain renovation measures, split according to architectural/structural measures, and technical installations.





## Policies to stimulate cost-effective renovation

- ✓ **Czech Republic, Denmark, France and Romania:** comprehensive overview of policy options and packaged approach.

**Denmark's** approach is the most persuasive with clear commitments to action.



## Forward-looking perspective to guide investment decisions

- ✓ Across all strategies, this was the weakest section.
- ✓ **Czech Republic, Romania and Spain** presented modelled scenarios for renovation (basis for the quantification of the investment requirements, energy savings and other benefits).
- ✓ **Spain:** detailed exposition of the investment requirements for each building type.

# Estimate of expected energy savings and wider benefits

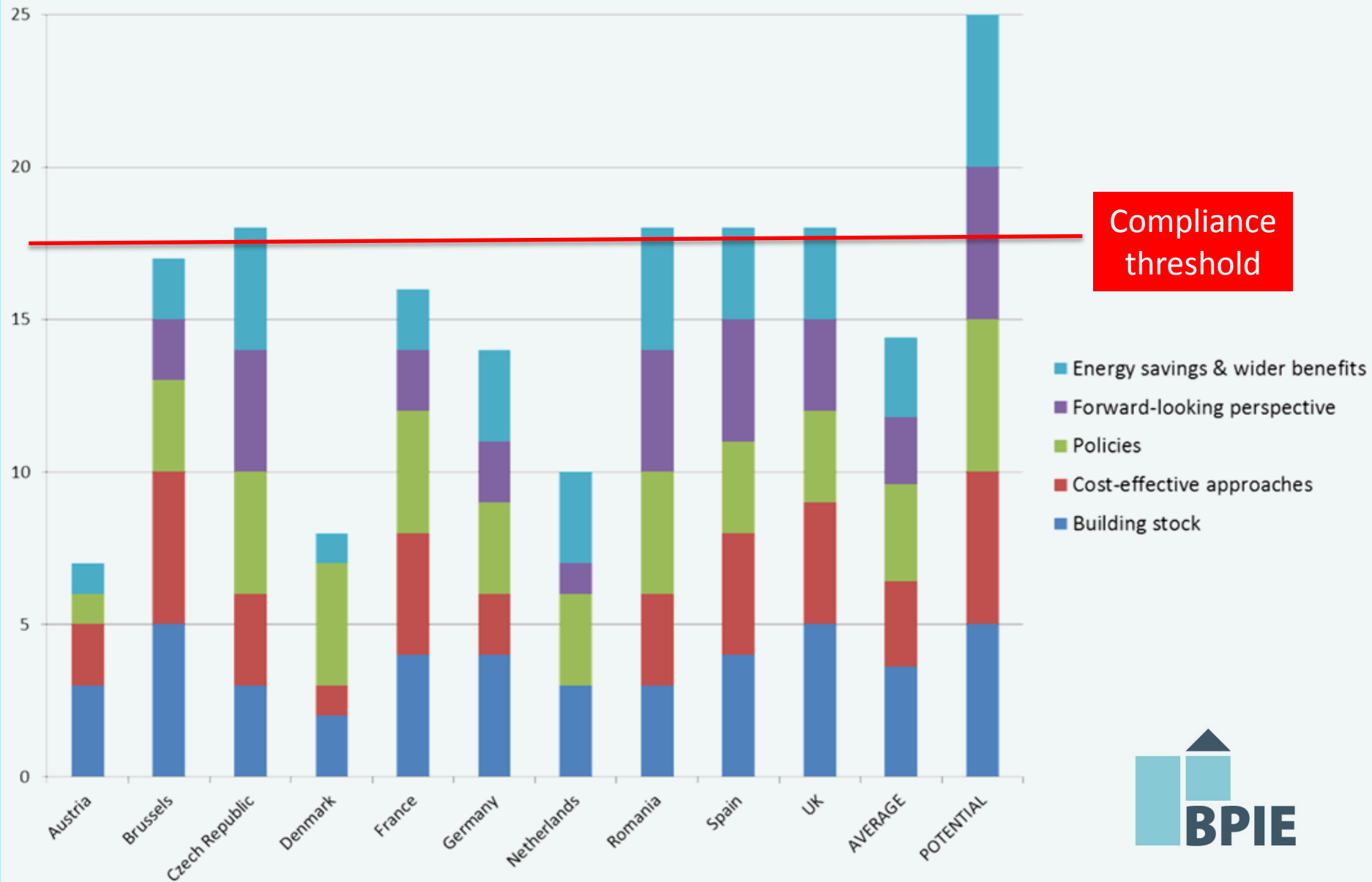


- ✓ Assessment of wider benefits was generally poor. Most MS identified the usual economic, environmental, societal and energy security benefits.
- ✓ Only **Romania** monetised benefits by recognising their value.
- ✓ **Czech Republic** - implementing the strategy creates 35 000 jobs; GDP increases by 1%

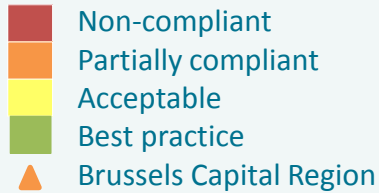
## COMPLIANCE WITH EED ARTICLE 4 REQUIREMENTS

COUNTRY	Overview of building stock	Identification of cost-effective approaches to renovation	Policies to stimulate cost-effective renovation	Forward-looking perspective to guide investment decisions	Estimate of expected energy savings and wider benefits	OVERALL level of compliance with Article 4
Austria	3	2	1	0	1	28%
Brussels Capital Region	5	5	3	2	2	68%
Czech Republic	3	3	4	4	4	72%
Denmark	2	1	4	0	1	32%
France	4	4	4	2	2	64%
Germany	4	2	3	2	3	56%
Netherlands	3	0	3	1	3	40%
Romania	3	3	4	4	4	72%
Spain	4	4	3	4	3	72%
UK	5	4	3	3	3	72%
AVERAGE	3.6	2.8	3.2	2.2	2.6	58%

# Country scores by Article 4 clause



## Overall level of compliance with Article 4



- ✓ The strategies don't set a clear, strategic path for the renovation of national building stocks.

N.B. No strategies were considered “best practice”.



Anyone making  
any extra effort?



# Stakeholder Consultation



The following Member States included a stakeholder consultation process in order to inform the renovation strategy:



**Denmark**



**France**



**Netherlands**



**Romania**



**Spain**



# Carbon Reduction Targets



The following Member States set their renovation strategies in the context of wider long term ambitions to cut carbon dioxide and greenhouse gas emissions:



**Denmark**



**France**



**Netherlands**

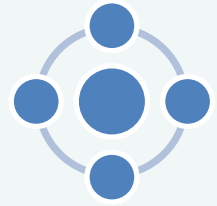


**Germany**



**UK**

# Holistic Policy Approach



The following Member States have taken a holistic approach in setting out their renovation strategies:



**Denmark**



**Czech  
Republic**

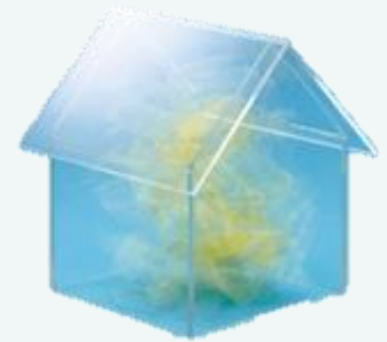


**Romania**



**UK**

# Indoor Climate



- Not discussed to any significant degree in most strategies
- Denmark : strongest link between renovation and indoor climate issues
- **Recommendation:** strategies should include requirements and guidance on how to ensure that building renovation also delivers a healthier building stock to improve the quality of life and wellbeing of the people, including:
  - Good daylight conditions
  - Adequate ventilation (whether natural or mechanical)
  - Indoor climate

# Multiple Benefits



**Job creation**



**Economic activity**



**Reduction in social security costs**



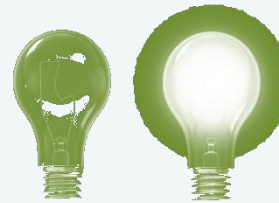
**Reduction in energy consumption**



**Regeneration of urban areas**



**Property values**



**Energy security**



**Comfort and indoor climate**



**Improved productivity**



**Fuel poverty alleviation**



**Increased purchasing power**



**Reducing CO2**

# What have we learned?

- Despite the multiple co-benefits, energy renovation of building not afforded much political importance or recognition
- Forward perspective weakest area – what steps will governments actually take?
- Available guidelines have largely been ignored
- *À la carte* selection of the best bits would produce a good strategy

# Recommendations



**Stakeholder involvement:** valuable input (improved quality and easier delivery and implementation)



**Building stock:** detailed breakdown is fundamental for next steps in the strategy (ideally online)



**Cost-effective approaches to renovation:** summary of cost-optimality analysis (c.f. EC guidelines)

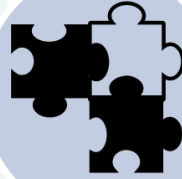


**Policies:** holistic coverage and geared towards achieving deep renovations



**Forward-looking perspective:** long-term signals, roadmap (key dates, targets, milestones).

# Recommendations



**Recognition of building market dynamics**, adapted to needs, desires and motivations of building owners.



**Quantification of benefits** (economic impact, societal benefits and environmental improvements)



**Healthy buildings:** daylight, ventilation and good IAQ for well-being of occupants



**Implementation and enforcement** of strategies at MS and EU level to ensure practical achievement



**Ongoing review and revision:** update and resubmission every 3 years

# Conclusion

- The first strategies are a learning process;
- Nonetheless, the required level of ambition, sense of urgency and strategic importance are still lacking;
- MS need to take immediate steps to improve their renovation strategies while keeping in mind that this is an opportunity to improve the quality of life of EU citizens.



**Thank you  
for your attention!**

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